UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,983	04/01/2004	William D. Bowers	ENIGMA.002A	7291

20995 7590 06/08/2007

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
HYUN, PAUL SANG HWA	
ART UNIT	**PAPER NUMBER**
1743	

NOTIFICATION DATE	DELIVERY MODE
06/08/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No.	Applicant(s)	
	10/815,983	BOWERS ET AL.	
	Examiner	Art Unit	
	Paul S. Hyun	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *17-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/5/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

REMARKS

Claims 1-24 are currently pending. In response to the written restriction requirement dated 11/20/06, Applicants elected the prosecution of claims 1-16 without traverse. Claims 17-24 are hereby withdrawn from further consideration.

Amendments to claims 1 and 9 have been acknowledged.

Specification

The use of the trademark "Ambersorb®" has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

The use of the trademark "Ambersorb®" in claim 10 should be replaced by the generic terminology.

It should be noted that claim 2 does not further limit the invention recited in claim 1 because "the liquid" is not part of the claimed apparatus.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim **3** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites that the claimed device is valveless. However, according to the Specification, the rotational movement of the sampling unit of the claimed device opens and closes the sampling chambers. This movement appears to describe the function of a valve. Therefore, the meaning that the term "valveless" is intending to convey is unclear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims **1-4, 6, 7, 9, 10 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone (US 3,885,439) in view of Agui et al. (US 4,883,596).

Stone discloses a device for sampling liquid (see Figure). The device comprises a sampling unit in the form of a cartridge-like rotating plate 101 positioned between two fixed plates 102 and 103. The sampling unit comprises a plurality of sampling chambers 104, 105 and 106 that are fluidly sealed relative to one another, and only one sampling chamber is in fluid communication with an inlet tube 111 and an outlet tube 124 at any given time. The device further comprises an actuator in the form of a Geneva mechanism to intermittently rotate the sampling unit (see lines 5-10, col. 1).

The invention disclosed by Stone differs from the claimed invention in that Stone does not disclose a sampling media. However, Stone does disclose that the device can be used for conducting assays (see Abstract). Use of an absorbent material in assays is well known in the art. Agui et al. disclose the use of Ambersorb® for binding endotoxin (see lines 40-50, col. 7). In light of the disclosure of Agui et al., it would have been obvious to one of ordinary skill in the art to provide absorbents such as Ambersorb® in the sampling chamber disclosed by Stone for binding analytes such as endotoxins.

With respect to claim 3, the movement and function of the plates 101, 102 and 103 disclosed by Stone do not appear to be different from the movement and function of the claimed invention. Therefore, although Stone discloses that plates 101, 102 and 103 form a valve, for examination purposes, the device disclosed by Stone will be construed to be valveless.

Claim **8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Stone in view of Agui et al. as applied to claims 1-4, 6, 7, 9, 10 and 13, and further in view of Adams et al. (US 3,583,157).

Neither Stone nor Agui et al. disclose an O-ring. However, it is well-known in the art to use O-rings to provide a fluidic seal between two adjoining surfaces. Adams et al. disclose the use of an O-ring to fluidly seal the connection between two adjoining surfaces that are configured to carry fluid (see lines 1-42, col. 3).

In light of the disclosure of Adams et al., it would have been obvious to one of ordinary skill in the art to provide an O-ring at the end of each sampling chamber of the modified Stone device to ensure a fluidic seal between the sampling chamber and the inlet and outlet tubes.

Claims **1, 2, 4, 5-7, 9, 12, 14 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan et al. (US 3,731,539) in view of Wolfe (US 3,841,156).

Brittan et al. disclose an apparatus for sampling atmospheric gas for pollution analysis. The apparatus comprises an inlet 38, an outlet, and a cylindrical, cartridge-like sampling unit 7 arranged between the inlet and the outlet. The sampling unit 7 is axially mounted on a battery-operated rotating shaft 5 and it comprises a plurality of tubular chambers 22 that are fluidly sealed relative to one another. Each chamber 22 comprises an inlet and an outlet port comprising absorbers/screens (see lines 50-53, col. 2), and at any given moment, only one chamber is enabled to collect a sample gas. The shaft 5 rotates the sampling unit hourly to enable a different chamber to come in fluid

communication with the sample (see lines 35-47, col. 1). The apparatus further comprises a battery-operated pump 21 for facilitating gas collection.

The apparatus disclosed by Brittan et al. differs from the claimed invention in that the reference does not disclose that the apparatus can be used to sample liquid.

Wolfe discloses a device for sampling fluid, including liquid and gas. Like the apparatus disclosed by Brittan et al., the device disclosed by Wolfe comprises an inlet, an outlet, a collection chamber arranged between the inlet and the outlet, and a pump. Moreover, the device is designed to be submerged in liquid such as seawater to sample liquid and designed to collect atmospheric gas (see lines 30-40, col. 3). In light of the disclosure of Wolfe, it would have been obvious to one of ordinary skill in the art to modify the apparatus disclosed by Brittan et al. such that it is capable of sampling liquid. The modified apparatus would be capable of analyzing pollutants in water and atmospheric gas.

Claim **8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan et al. in view of Wolfe as applied to claims 1, 2, 4, 5-7, 9, 12, 14 and 16, and further in view of Adams et al. (US 3,583,157).

Neither Brittan et al. nor Wolfe disclose an O-ring.

However, it is well-known in the art to use O-rings to provide a fluidic seal between two adjoining surfaces. Adams et al. disclose the use of an O-ring to fluidly seal the connection between two adjoining surfaces that are configured to carry fluid (see lines 1-42, col. 3).

In light of the disclosure of Adams et al., it would have been obvious to one of ordinary skill in the art to provide an O-ring between the connection of chamber 22 and conduit 20 of the modified Brittan et al. apparatus (see Fig. 5). The O-ring would ensure a fluidic seal between chamber 22 and conduit 20.

Claims **10 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan et al. in view of Wolfe as applied to claims 1, 2, 4, 5-7, 9, 12, 14 and 16, and further in view of Skogley (US 5,355,736).

Brittan et al. disclose the use of an absorbent material for binding contaminants, but neither Brittan et al. nor Wolfe disclose sorbent cartridges or use of Ambersorb® as a sorbent material.

Skogley discloses a cartridge-like device for sampling water for pollution analysis. The device comprises a shell filled with Ambersorb® for binding ions in water samples (see lines 55-60, col. 3). In light of the disclosure of Skogley, it would have been obvious to one of ordinary skill in the art to provide shells filled with Ambersorb® in one of the chambers of the modified Brittan et al. apparatus for binding ions in the water sample.

Claim **13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan et al. in view of Wolfe as applied to claims 1, 2, 4, 5-7, 9, 12, 14 and 16, and further in view of Weisgerber (US 3,921,178).

Brittan et al. disclose that shaft 5 is configured to intermittently rotate to enable each chamber to collect samples for an hour (see lines 40-45, col. 1). A clock controls the intermittent movement of the shaft. However, neither Brittan et al., nor Wolfe disclose a Geneva mechanism to control the intermittent movement of the shaft.

However, using a Geneva mechanism to control intermittent movements of a shaft is well known in the art. Weisgerber discloses a device for measuring time that requires intermittent movement of a shaft. The intermittent rotation is actuated by a Geneva mechanism (see lines 52-65, col. 3). In light of the disclosure of Weisgerber, it would have been obvious to use a Geneva mechanism to actuate the movement of the shaft of the modified Brittan et al. apparatus. A Geneva mechanism would enable the intermittent rotation of the shaft that is required for the intended use of the modified apparatus.

Claim **15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan et al. in view of Wolfe as applied to claims 1, 2, 4, 5-7, 9, 12, 14 and 16, and further in view of Ogawa (US 4,527,968).

Neither Brittan et al. nor Wolfe disclose a pump comprising a pair of rotating members that rotate at different rates in the same direction.

Ogawa discloses a vane-type pump comprising two members that rotate in the same direction but at different speeds during operation (see lines 5-28, col. 4). In light of the disclosure of Ogawa, it would have been obvious to one of ordinary skill in the art to

incorporate a vane-type pump like the one disclosed by Ogawa into the modified Brittan et al. apparatus. The pump would facilitate sample collection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul S. Hyun whose telephone number is (571)-272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSH
6/1/07

Jill Warden
Supervisory Patent Examiner
Technology Center 1700